

**NEW SOURCE CONSTRUCTION PERMIT
and MINOR SOURCE OPERATING PERMIT
OFFICE OF AIR QUALITY**

**ChemRex Inc.
3401 McArthur Drive
Fort Wayne, Indiana 46809**

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, (326 IAC 2-5.1), 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

This permit is also issued under the provisions of 326 IAC 2-2, 40 CFR 52.21, and 40 CFR 52.124 (Prevention of Significant Deterioration), with conditions listed on the attached pages.

This permit is also issued under the provisions of 326 IAC 2-3 (Emission Offset), with conditions listed on the attached pages

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| Operation Permit No.: MSOP 003-9709-00163 | |
| Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality | Issuance Date: Expiration Date: |

TABLE OF CONTENTS

A SOURCE SUMMARY

- A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]
- A.2 Emission Units and Pollution Control Equipment Summary

B GENERAL CONSTRUCTION CONDITIONS

- B.1 Permit No Defense [IC 13]
- B.2 Definitions
- B.3 Effective Date of the Permit [IC 13-15-5-3]
- B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]
- B.5 Modification to Permit [326 IAC 2]
- B.6 Minor Source Operating Permit [326 IAC 2-6.1]

C SOURCE OPERATION CONDITIONS

- C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]
- C.2 Hazardous Air Pollutants (HAPs) [326 IAC 2-7]
- C.3 Preventive Maintenance Plan [326 IAC 1-6-3]
- C.4 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]
- C.5 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]
- C.6 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]
- C.7 Permit Revocation [326 IAC 2-1-9]
- C.8 Opacity [326 IAC 5-1]
- C.9 Fugitive Dust Emissions [326 IAC 6-4]
- C.10 Stack Height [326 IAC 1-7]
- C.11 Performance Testing [326 IAC 3-6] [326 IAC 2-1.1-11]
- C.12 Compliance Monitoring [326 IAC 2-1.1-11]
- C.13 Maintenance of Monitoring Equipment [IC 13-14-1-13]
- C.14 Monitoring Methods [326 IAC 3]
- C.15 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]
- C.16 Actions Related to Noncompliance Demonstrated by a Stack Test

Record Keeping and Reporting Requirements

- C.17 Malfunctions Report [326 IAC 1-6-2]
- C.18 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]
- C.19 General Record Keeping Requirements [326 IAC 2-6.1-2]
- C.20 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]
- C.21 Annual Notification [326 IAC 2-6.1-5(a)(5)]

D.1 EMISSIONS UNIT OPERATION CONDITIONS: Grout Manufacturing Processes

Emission Limitations and Standards [326 IAC 2-6.1-5(1)]

- D.1.1 Particulate Matter (PM) [326 IAC 6-3]
- D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

Compliance Determination Requirements [326 IAC 2-1.1-11]

- D.1.3 Particulate Matter (PM)

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

- D.1.4 Visible Emissions Notations
- D.1.5 Parametric Monitoring
- D.1.6 Baghouse Inspections
- D.1.7 Broken or Failed Bag Detection

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]
D.1.8 Record Keeping Requirements

Malfunction Report

Annual Notification

SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary grout mixing source.

Authorized Individual: Dwight Taylor
Source Address: 3401 McArthur Drive, Fort Wayne, Indiana 46809
Mailing Address: 3401 McArthur Drive, Fort Wayne, Indiana 46809
Phone Number: 612 - 496 - 6005
SIC Code: 2851 and 3241
County Location: Allen
County Status: Attainment for all criteria pollutants
Source Status: Minor Source Operating Permit
Minor Source, under PSD Rules;
Minor Source, Section 112 of the Clean Air Act

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

- (a) Eight (8) grout plant silos (1 - 8), known as Emission Units 1 - 8, equipped with a baghouse, known as CE001, installed in March 1990, exhausted through Stack SV001, storage capacity: 85 tons each for Emission Units 1 - 3, and 45 tons each for Emission Units 4 - 7, and 85 tons for Emission Unit 8. Throughput capacity: 66,667 pounds of sand 16 x 35, sand F-80, and sand F-30 per hour for each Emission Unit 1 - 3, respectively, and 66,667 pounds of type III gray cement, type I gray cement, cement fondue, and type I white cement per hour for each Emission Unit 4 - 7, respectively and 66,667 pounds of Federal fine sand per hour for Emission Unit 8. Maximum annual throughput to all eight (8) silos combined is limited to 219,000,000 pounds of grout manufacturing materials based on the maximum capacity of the grout plant to manufacture 25,000 pounds of grout per hour.
- (b) One (1) grout plant, known as Emission Unit 11, equipped with a baghouse, known as CE001, installed in March 1990, exhausted through Stack SV001, capacity: 25,000 pounds of grout mixed powders per hour, consisting of the following:
 - (1) One (1) supersack fill station,
 - (2) One (1) weigh hopper,
 - (3) One (1) bag compressor,
 - (4) One (1) bag stacking station,
 - (5) One (1) batch hopper diverter valve cleanout,

- (6) One (1) mixer diverter valve cleanout,
 - (7) One (1) micro add table,
 - (8) One (1) micro additive weigh hopper,
 - (9) One (1) silo batch weigh hopper,
 - (10) One (1) fifty (50) pound bag bulk hopper,
 - (11) One (1) supersack hopper,
 - (12) One (1) grout plant bag filling operation,
 - (13) One (1) Taylor bagger super sack hopper,
 - (14) One (1) Taylor bagger auger canopy hood,
 - (15) One (1) Taylor bagger air lock,
 - (16) One (1) Taylor bagger side draft hood, and
 - (17) One (1) Littleford Day mixer.
- (c) One (1) supersack small packaging operation, known as Emission Unit 14, equipped with a baghouse, known as CE002, installed in March 1990, exhausted through Stack SV002, capacity: 2,200 pounds of grout per hour.
- (d) Five (5) mixing tanks for coatings, known as Emission Unit 16, equipped with a baghouse, known as CE002, exhausted through Stack SV002, storage capacity: 2,500 gallon mixer installed in 1998, 1,000 gallon mixer installed in 1992, 1,000 gallon mixer installed in 1999, and two (2) 250 gallon each, pre-mix tanks installed in 1998. Throughput capacity: 10,000 pounds of powders, water and solvents per hour for the 2,500-gallon mixing tank, 5,714 pounds of powders, water and solvents per hour for each of the 1,000 gallon mixing tanks, and 10,000 pounds of powders, water and solvent per hour for each of the 250 gallon pre-mix tanks.
- (e) Four (4) mixing tanks for coatings, known as Emission Unit 17, equipped with a baghouse, known as CE002, exhausted through Stack SV002, storage capacity: one (1) 300 gallon mixer, installed prior to 1986, one (1) 300 gallon mixer, installed in 1996, one (1) 400 gallon mixer, installed prior to 1986, and one (1) 50 gallon pre-mixer, installed prior to 1986. Throughput capacity: 1,200 pounds of powders, water and solvents per hour for the 300-gallon mixer, 750 pounds of powders, water and solvents per hour for the 300 gallon mixer tank, 1,600 pounds of powders, water and solvents per hour for the 400 gallon mixer, and 2,000 pounds of powders, water and solvents per hour for the 50 gallon pre-mixer.
- (f) One (1) Sonoprep grout mixing and packaging line, known as Emission Unit 18, equipped with a baghouse, known as CE002, installed in 1999, exhausted through Stack SV002, throughput capacity: 1,733 pounds of powder and resin per hour total.
- (g) Eight (8) above ground storage tanks, known as Emission Unit 19, installed in 1997, located inside in the coatings area, storage capacity: 8,000 gallons each. Throughput to the tanks is limited to 362,909,280 pounds per year, the total maximum amount of coatings the mixing

tanks (Emission Unit 16) can produce.

- (h) Two (2) mixing tanks for coatings, also known as Emission Unit 17, equipped with a bag-house, known as CE002, exhausted through Stack SV002, storage capacity: one (1) 300 gallon mixer to be installed in 2000 and one (1) 150 gallon mixer to be installed in 2000. Throughput capacity: 1,200 pounds of powders, water and solvents per hour for the 300 gallon mixer and 600 pounds of powders, water and solvent per hour for the 150 gallon mixer.

SECTION B GENERAL CONSTRUCTION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Modification to Permit [326 IAC 2]

Notwithstanding the Section B condition entitled "Minor Source Operating Permit", all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.6 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section.
 - (1) If the Affidavit of Construction verifies that the facilities covered in this Construction Permit were constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (2) If the Affidavit of Construction does not verify that the facilities covered in this Construction Permit were constructed as proposed in the application, then the Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section prior to beginning operation of the facilities.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
- (c) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.

- (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).
- (e) Pursuant to 326 IAC 2-6.1-7, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. If IDEM, OAQ, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied. The operation permit issued shall contain as a minimum the conditions in Section C and Section D of this permit.

SECTION C SOURCE OPERATION CONDITIONS

| |
|---------------|
| Entire Source |
|---------------|

C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]

- (a) The total source potential to emit of all criteria pollutants is less than two hundred fifty (250) tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.
- (b) Any change or modification which may increase potential to emit to two hundred fifty (250) tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAQ prior to making the change.
- (c) Any change or modification which may increase potential to emit PM₁₀, SO₂, VOC, CO or NO_x to 100 tons per year from this source, shall cause this source to be considered a major source under 326 IAC 2-7, and shall require approval from IDEM, OAQ prior to making the change.

C.2 Hazardous Air Pollutants (HAPs) [326 IAC 2-7]

Any change or modification which may increase potential to emit to ten (10) tons per year of any single hazardous air pollutant, twenty-five (25) tons per year of any combination of hazardous air pollutants from this source, shall cause this source to be considered a major source under Part 70 Permit Program, 326 IAC 2-7, and shall require approval from IDEM, OAQ prior to making the change.

C.3 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:
 - (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAQ, upon request and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.4 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.

- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.5 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.6 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)]:

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.7 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.8 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

C.9 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.10 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using good engineering practices (GEP) pursuant to 326 IAC 1-7-3.

Testing Requirements

C.11 Performance Testing [326 IAC 3-6] [326 IAC 2-1.1-11]

- (a) Compliance testing on new emissions units shall be conducted within sixty (60) days after achieving maximum production rate, but no later than one hundred eighty (180) days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two (2) weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAQ, within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.12 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.13 Maintenance of Monitoring Equipment [IC 13-14-1-13]

- (a) In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less than one (1) hour until such time as the continuous monitor is back in operation.
- (b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.14 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.15 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]

- (a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:
 - (1) This condition;
 - (2) The Compliance Determination Requirements in Section D of this permit;

- (3) The Compliance Monitoring Requirements in Section D of this permit;
- (4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and
- (5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAQ upon request and shall be subject to review and approval by IDEM, OAQ. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of:
 - (A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and
 - (B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.
- (b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.
- (c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:
 - (1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;
 - (3) An automatic measurement was taken when the process was not operating; or
 - (4) The process has already returned to operating within "normal" parameters and no response steps are required.
- (d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken.

C.16 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions

unit while the corrective actions are being implemented. IDEM, OAQ shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAQ within thirty (30) days of receipt of the notice of deficiency. IDEM, OAQ reserves the authority to use enforcement activities to resolve noncompliant stack tests.

- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.17 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a) (1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.18 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) With the exception of performance tests conducted in accordance with Section C- Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.

- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.19 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAQ, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;
 - (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
 - (1) Copies of all reports required by this permit;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit,

and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

- (d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.20 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.
- (c) Unless otherwise specified in this permit, any quarterly or semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The reports do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
 - (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
 - (2) A malfunction as described in 326 IAC 1-6-2; or
 - (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.
 - (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

- (e) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (f) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.21 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Data Section, Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015
- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) Eight (8) grout plant silos (1 - 8), known as Emission Units 1 - 8, equipped with a baghouse, known as CE001, installed in March 1990, exhausted through Stack SV001, storage capacity: 85 tons each for Emission Units 1 - 3, and 45 tons each for Emission Units 4 - 7, and 85 tons for Emission Unit 8. Throughput capacity: 66,667 pounds of sand 16 x 35, sand F-80, and sand F-30 per hour for each Emission Unit 1 - 3, respectively, and 66,667 pounds of type III gray cement, type I gray cement, cement fondue, and type I white cement per hour for each Emission Unit 4 - 7, respectively and 66,667 pounds of Federal fine sand per hour for Emission Unit 8. Maximum annual throughput to all eight (8) silos combined is limited to 219,000,000 pounds of grout manufacturing materials based on the maximum capacity of the grout plant to manufacture 25,000 pounds of grout per hour.
- (b) One (1) grout plant, known as Emission Unit 11, equipped with a baghouse, known as CE001, installed in March 1990, exhausted through Stack SV001, capacity: 25,000 pounds of grout mixed powders per hour, consisting of the following:
 - (1) One (1) supersack fill station,
 - (2) One (1) weigh hopper,
 - (3) One (1) bag compressor,
 - (4) One (1) bag stacking station,
 - (5) One (1) batch hopper diverter valve cleanout,
 - (6) One (1) mixer diverter valve cleanout,
 - (7) One (1) micro add table,
 - (8) One (1) micro additive weigh hopper,
 - (9) One (1) silo batch weigh hopper,
 - (10) One (1) fifty (50) pound bag bulk hopper,
 - (11) One (1) supersack hopper,
 - (12) One (1) grout plant bag filling operation,
 - (13) One (1) Taylor bagger super sack hopper,
 - (14) One (1) Taylor bagger auger canopy hood,
 - (15) One (1) Taylor bagger air lock,
 - (16) One (1) Taylor bagger side draft hood, and
 - (17) One (1) Littleford Day Mixer.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emissions Unit Description:

- (c) One (1) supersack small packaging operation, known as Emission Unit 14, equipped with a baghouse, known as CE002, installed in March 1990, exhausted through Stack SV002, capacity: 2,200 pounds of grout per hour.
- (d) Five (5) mixing tanks for coatings, known as Emission Unit 16, equipped with a baghouse, known as CE002, exhausted through Stack SV002, storage capacity: 2,500 gallon mixer installed in 1998, 1,000 gallon mixer installed in 1992, 1,000 gallon mixer installed in 1999, and two (2) 250 gallon each, pre-mix tanks installed in 1998. Throughput capacity: 10,000 pounds of powders, water and solvents per hour for the 2,500-gallon mixing tank, 5,714 pounds of powders, water and solvents per hour for each of the 1,000 gallon mixing tanks, and 10,000 pounds of powders, water and solvent per hour for each of the 250 gallon pre-mix tanks.
- (e) Four (4) mixing tanks for coatings, known as Emission Unit 17, equipped with a baghouse, known as CE002, exhausted through Stack SV002, storage capacity: one (1) 300 gallon mixer, installed prior to 1986, one (1) 300 gallon mixer, installed in 1996, one (1) 400 gallon mixer, installed prior to 1986, and one (1) 50 gallon pre-mixer, installed prior to 1986. Throughput capacity: 1,200 pounds of powders, water and solvents per hour for the 300-gallon mixer, 750 pounds of powders, water and solvents per hour for the 300 gallon mixer tank, 1,600 pounds of powders, water and solvents per hour for the 400 gallon mixer, and 2,000 pounds of powders, water and solvents per hour for the 50 gallon pre-mixer.
- (f) One (1) Sonoprep grout mixing and packaging line, known as Emission Unit 18, equipped with a baghouse, known as CE002, installed in 1999, exhausted through Stack SV002, throughput capacity: 1,733 pounds of powder and resin per hour total.
- (g) Eight (8) above ground storage tanks, known as Emission Unit 19, installed in 1997, located inside in the coatings area, storage capacity: 8,000 gallons each. Throughput to the tanks is limited to 362,909,280 pounds per year, the total maximum amount of coatings the mixing tanks (Emission Unit 16) can produce.
- (h) Two (2) mixing tanks for coatings, also known as Emission Unit 17, equipped with a baghouse, known as CE002, exhausted through Stack SV002, storage capacity: one (1) 300 gallon mixer to be installed in 2000 and one (1) 150 gallon mixer to be installed in 2000. Throughput capacity: 1,200 pounds of powders, water and solvents per hour for the 300 gallon mixer and 600 pounds of powders, water and solvent per hour for the 150 gallon mixer.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate shall not exceed the following pounds per hour rates when operating at the indicated process weight rates.

| Emission Unit | Process Weight Rate (tons/hour) | Allowable PM Emission Rate (pounds/hour) |
|----------------------|--|---|
| 1 - 8 | 33.3 each | 40.9 each |
| 11 | 12.5 | 22.3 |
| 14 | 1.10 | 4.37 |
| 16 - 2,500 gal | 5.00 | 12.1 |
| 16 - 1,000 gal, each | 2.86 each | 8.3 each |
| 16 - 250 gal, each | 5.00 each | 12.1 each |
| 17 - 300 gal each | 0.600 each | 2.91 each |
| 17 - 300 gal | 0.380 | 2.13 |
| 17 - 150 gal | 0.300 | 1.83 |
| 17 - 400 gal | 0.800 | 3.53 |
| 17 - 50 gal | 1.00 | 4.10 |
| 18 | 0.870 | 3.72 |

The pounds per hour limitations were calculated with the following equations:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

Interpolation and extrapolation of the data for the process weight rate in excess of 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the silos #1 - 8, known as Emission Units 1 - 8, as well as the grout plant, Emission Unit 11, 2,500-gallon mixer, known as Emission Unit 16 and the two (2) 250-gallon mixers and their control devices.

Compliance Determination Requirements [326 IAC 2-1.1-11]

D.1.3 Particulate Matter (PM)

- (a) In order to comply with Condition D.1.1, the baghouses for PM control shall be in operation at all times when the Emission Units 1 - 8, 11, 14, 16, 17 and 18 are in operation.
- (b) The requirement from CP (02) 1870, issued on August 14, 1990, Operation Conditions 5 & 6 requiring overall control efficiencies of 99.9% for the central dust collector and the conveying system baghouse is not applicable because the specific control efficiencies are not

required as long as each emission unit complies with the requirements of 326 IAC 6-3-2.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.4 Visible Emissions Notations

- (a) Visible emission notations of the baghouse stack exhausts SV001 and SV 002 shall be performed during normal daylight operations once per shift when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses CE001 and CE002 used in conjunction with the grout manufacturing process, at least once per shift when the grout manufacturing processes are in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 2.0 and 5.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.1.6 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the grout manufacturing operations when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.1.7 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions). Within eight (8) business hours of the determination of failure, response steps according to the timetable

described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.8 Record Keeping Requirements

- (a) To verify that the throughputs of grout manufacturing materials to Emission Units 1 - 8 does not exceed 219,000,000 pounds per year, the Permittee shall maintain records of the throughput of grout materials through Emission Units 1 - 8..
- (b) To document compliance with Condition D.1.4, the Permittee shall maintain records of visible emission notations of the baghouse stack exhausts once per shift.
- (c) To document compliance with Condition D.1.5, the Permittee shall maintain the following:

Records of the following operational parameters during normal operation when venting to the atmosphere once per shift:
 - (1) Inlet and outlet differential static pressure; and
 - (2) Cleaning cycle operation.
- (d) To document compliance with Condition D.1.6, the Permittee shall maintain records of the results of the inspections required under Condition D.1.6.
- (e) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES ?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100 TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ PHONE NO. : _____
LOCATION: (CITY AND COUNTY) _____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/20____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ AM / PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO₂, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____
INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

**Please note - This form should only be used to report malfunctions
applicable to Rule 326 IAC 1-6 and to qualify for
the exemption under 326 IAC 1-6-4.**

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

* **Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

| | |
|----------------------|----------------------------------|
| Company Name: | ChemRex Inc. |
| Address: | 3401 McArthur Drive |
| City: | Fort Wayne, Indiana 46809 |
| Phone #: | 612 - 496 - 6005 |
| MSOP #: | 003-9707-00163 |

I hereby certify that ChemRex Inc. is ☒ still in operation.
☐ no longer in operation.

I hereby certify that ChemRex Inc. is ☒ in compliance with the requirements of MSOP **003-9709-00163**.
☐ not in compliance with the requirements of MSOP **003-9707-00163**.

| |
|---------------------------------------|
| Authorized Individual (typed): |
| Title: |
| Signature: |
| Date: |

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

| |
|-----------------------|
| Noncompliance: |
| |
| |
| |
| |

Indiana Department of Environmental Management Office of Air Management

Technical Support Document (TSD) for New Source Construction and a Minor Source Operating Permit

Source Background and Description

Source Name: ChemRex Inc.
Source Location: 3401 McArthur Drive, Fort Wayne, Indiana 46809
County: Allen
SIC Code: 3241
Operation Permit No.: MSOP 003-9709-00163
Permit Reviewer: Mark L. Kramer

The Office of Air Management (OAM) has reviewed an application from ChemRex Inc. relating to the construction and operation of a grout mixing source.

ChemRex's operations are noncontinuous batch processes. The manufacturing processes involve transferring numerous materials from silos and container into mixers, mixing the ingredients for various lengths of time and then transferring the final product in containers for shipment. Thus, the storage silos can not be continuously filled and unloaded and the mixers can not be assumed to mix continuously. Thus, all potential PM and PM₁₀ emissions have been calculated based on the maximum number of batches per hour, equivalent to 219,000,000 pounds of grout manufacturing materials per year.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

- (a) Eight (8) grout plant silos (1 - 8), known as Emission Units 1 - 8, equipped with a baghouse, known as CE001, installed in March 1990, exhausted through Stack SV001, storage capacity: 85 tons each for Emission Units 1 - 3, and 45 tons each for Emission Units 4 - 7, and 85 tons for Emission Unit 8. Throughput capacity: 66,667 pounds of sand 16 x 35, sand F-80, and sand F-30 per hour for each Emission Unit 1 - 3, respectively, and 66,667 pounds of type III gray cement, type I gray cement, cement fondue, and type I white cement per hour for each Emission Unit 4 - 7, respectively and 66,667 pounds of Federal fine sand per hour for Emission Unit 8. Maximum annual throughput to all eight (8) silos combined is limited to 219,000,000 pounds of grout manufacturing materials based on the maximum capacity of the grout plant to manufacture 25,000 pounds of grout per hour.
- (b) One (1) grout plant, known as Emission Unit 11, equipped with a baghouse, known as CE001, installed in March 1990, exhausted through Stack SV001, capacity: 25,000 pounds of grout mixed powders per hour, consisting of the following:

- (1) One (1) supersack fill station,
 - (2) One (1) weigh hopper,
 - (3) One (1) bag compressor,
 - (4) One (1) bag stacking station,
 - (5) One (1) batch hopper diverter valve cleanout,
 - (6) One (1) mixer diverter valve cleanout,
 - (7) One (1) micro add table,
 - (8) One (1) micro additive weigh hopper,
 - (9) One (1) silo batch weigh hopper,
 - (10) One (1) fifty (50) pound bag bulk hopper,
 - (11) One (1) supersack hopper,
 - (12) One (1) grout plant bag filling operation,
 - (13) One (1) Taylor bagger super sack hopper,
 - (14) One (1) Taylor bagger auger canopy hood,
 - (15) One (1) Taylor bagger air lock, and
 - (16) One (1) Taylor bagger side draft hood.
- (c) One (1) supersack small packaging operation, known as Emission Unit 14, equipped with a baghouse, known as CE002, installed in March 1990, exhausted through Stack SV002, capacity: 2,200 pounds of grout per hour.

Unpermitted Emission Units and Pollution Control Equipment

The source also consists of the following unpermitted facilities/units:

- (d) Five (5) mixing tanks for coatings, known as Emission Unit 16, equipped with a baghouse, known as CE002, exhausted through Stack SV002, storage capacity: 2,500 gallon mixer installed in 1998, 1,000 gallon mixer installed in 1992, 1,000 gallon mixer installed in 1999, and two (2) 250 gallon each, pre-mix tanks installed in 1998. Throughput capacity: 10,000 pounds of powders, water and solvents per hour for the 2,500-gallon mixing tank, 5,714 pounds of powders, water and solvents per hour for each of the 1,000 gallon mixing tanks, and 10,000 pounds of powders, water and solvent per hour for each of the 250 gallon pre-mix tanks.
- (e) Four (4) mixing tanks for coatings, known as Emission Unit 17, equipped with a baghouse, known as CE002, exhausted through Stack SV002, storage capacity: one (1) 300 gallon mixer, installed prior to 1986, one (1) 300 gallon mixer, installed in 1996, one (1) 400 gallon mixer, installed prior to 1986, and one (1) 50 gallon pre-mixer, installed prior to 1986.

Throughput capacity: 1,200 pounds of powders, water and solvents per hour for the 300-gallon mixer, 750 pounds of powders, water and solvents per hour for the 300 gallon mixer tank, 1,600 pounds of powders, water and solvents per hour for the 400 gallon mixer, and 2,000 pounds of powders, water and solvents per hour for the 50 gallon pre-mixer.

- (f) One (1) Sonoprep grout mixing and packaging line, known as Emission Unit 18, equipped with a baghouse, known as CE002, installed in 1999, exhausted through Stack SV002, throughput capacity: 1,733 pounds of powder, and solvent per hour total.
- (g) Six (6) above ground storage tanks, known as Emission Unit 19, installed in 1997, located inside in the coatings area, storage capacity: 8,000 gallons each. Throughput to the tanks is limited to 362,909,280 pounds per year, the total maximum amount of coatings the mixing tanks (Emission Unit 16) can produce.

New Emission Units and Pollution Control Equipment

The application includes information relating to the prior approval for the construction and operation of the following equipment pursuant to 326 IAC 2-8-4(11):

- (h) Two (2) mixing tanks for coatings, also known as Emission Unit 17, equipped with a baghouse, known as CE002, exhausted through Stack SV002, storage capacity: one (1) 300 gallon mixer to be installed in 2000 and one (1) 150 gallon mixer to be installed in 2000. Throughput capacity: 1,200 pounds of powders, water and solvents per hour for the 300 gallon mixer and 600 pounds of powders, water and solvent per hour for the 150 gallon mixer.

Emission Units and Pollution Control Equipment Removed From Service

- (i) Two (2) brick pigment lines, equipped with a baghouse, known as CE002, installed prior to 1986, exhausted through Stack SV002, capacity: 1,782 pounds of brick materials per hour.
- (j) One (1) greystone coating operation, equipped with two (2) HVLP spray applicators, installed prior to 1986.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

CP (02) 1870, issued on August 14, 1990

All conditions from previous approvals were incorporated into this permit except the following:

CP (02) 1870, issued on August 14, 1990

Operation Conditions 5 & 6: Requiring overall control efficiencies of 99.9% for the central dust collector and the conveying system baghouse.

Reason not incorporated: The specific control efficiencies are not required as long as each emission unit complies with the requirements of 326 IAC 6-3-2.

Stack Summary

| Stack ID | Operation | Height (feet) | Diameter (feet) | Flow Rate (acfm) | Temperature (EF) |
|----------|--------------------------------|---------------|-----------------|------------------|------------------|
| SV001 | Emission Units 1 - 8 & 11 | 40.0 | 2.0 | 19,650 | 70 |
| SV002 | Emission Units 14, 16, 17 & 18 | 40.0 | 2.0 | 12,700 | 70 |

Enforcement Issue

- (a) IDEM is aware that Emission Units 16 - 19 have been constructed and operated prior to receipt of the proper permit. The subject equipment is listed in this Technical Support Document under the condition entitled *Unpermitted Emission Units and Pollution Control Equipment*.
- (b) IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on April 22, 1998, with additional information received on September 6, 2000.

Emission Calculations

See Appendix A of this document for detailed emissions calculations on pages 1 through 7.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

| Pollutant | Potential To Emit (tons/year) |
|------------------|-------------------------------|
| PM | 80.0 |
| PM ₁₀ | 80.0 |
| SO ₂ | 0.00 |
| VOC | 7.21 |
| CO | 0.00 |
| NO _x | 0.00 |

| HAPs | Potential To Emit (tons/year) |
|-------|----------------------------------|
| Total | 7.21 |

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM and PM₁₀ are equal to or greater than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1.

(b) Fugitive Emissions

Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

No previous emission data has been received from the source.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

| | Limited Potential to Emit (tons/year) | | | | | | |
|-----------------|--|------------------|-----------------|------------|------|-----------------|-------|
| Emission Unit | PM | PM ₁₀ | SO ₂ | VOC | CO | NO _x | HAPS |
| 1 - 8 | 0.005 | 0.005 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11 | 0.036 | 0.036 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14 | 0.007 | 0.007 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16 | 0.025 | 0.025 | 0.00 | 6.25 | 0.00 | 0.00 | 6.25 |
| 17 | 0.004 | 0.004 | 0.00 | 0.962 | 0.00 | 0.00 | 0.962 |
| 18 | 0.001 | 0.001 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 19 | 0.000 | 0.000 | 0.00 | negligible | 0.00 | 0.00 | 0.00 |
| Total Emissions | 0.080 | 0.080 | 0.00 | 7.21 | 0.00 | 0.00 | 7.21 |

The proposed new facilities have a potential to emit before controls of less than five (5) tons per year.

County Attainment Status

The source is located in Allen County.

| Pollutant | Status |
|------------------|------------|
| PM ₁₀ | attainment |
| SO ₂ | attainment |
| NO ₂ | attainment |
| Ozone | attainment |
| CO | attainment |
| Lead | attainment |

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO_x) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Allen County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Allen County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

| Pollutant | Emissions (ton/yr) |
|------------------|-----------------------|
| PM | 0.080 |
| PM ₁₀ | 0.080 |
| SO ₂ | 0.000 |
| VOC | 7.21 |
| CO | 0.00 |
| NO _x | 0.00 |
| Single HAP | 7.21 |
| Combination HAPs | 7.21 |

- (a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions were based on this application.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit MSOP 003-9709-00163, is still not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than one hundred (100) tons per year,
- (b) a single hazardous air pollutant (HAP) is less than ten (10) tons per year, and
- (c) any combination of HAPS is less than twenty-five (25) tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAM inspector assigned to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

This existing source including the proposed construction is not subject to the requirements of this rule because the potential to emit PM and PM₁₀ are less than 250 tons per year, before and after controls. Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

326 IAC 2-6 (Emission Reporting)

This source is located in Allen County and the potential to emit PM₁₀ and VOC are less than one hundred (100) tons per year, therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary alternative opacity limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 1-6-3 (Preventive Maintenance Plan)

- (a) A Preventive Maintenance Plan is required for the silos #1 - 8, known as Emission Units 1 - 8, as well as the grout plant, Emission Unit 11, 2,500-gallon mixer, known as Emission Unit 16 and the two (2) 250-gallon mixers, also known as Emission Unit 16 because:
- (1) The allowable PM emissions exceed ten (10) pounds per hour, and
 - (2) There is a PM control device operating with these emission units.
- (b) A Preventive Maintenance Plan is not required for Emission Unit 14, the remaining facilities of Emission Unit 16, Emission Unit 17 and Emission Unit 18 because:
- (1) There are control devices for these facilities, and
 - (2) The allowable PM emissions are less than ten (10) pounds per hour.

326 IAC 2-4.1-1 (New source toxics control)

Since the source has potential emissions of a single HAP and a combination of HAPs that are less than the major source levels of ten (10) and twenty-five (25) tons per year, respectively, therefore, this source is not subject to the requirements of this rule and it was primarily constructed before the applicability date.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) shall be limited as shown in the following table:

The PM emissions from each emission unit listed on page 7 of 7 of Appendix A substantiates that all emission units comply with the allowable PM emission rates.

| Emission Unit | Process Weight Rate (tons/hour) | Allowable PM Emission Rate (pounds/hour) | Potential PM Emission Rate After Controls (pounds/hour) |
|-------------------------|--|---|--|
| 1 - 8 | 33.3 each | 40.9 each | 0.003 each |
| 11 | 12.5 | 22.3 | 0.008 |
| 14 | 1.10 | 4.37 | 0.002 |
| 16 - 2,500 gal | 5.00 | 12.1 | 0.001 |
| 16 - 1,000 gal, each | 2.86 each | 8.3 each | 0.001 |
| 16 - 250 gal, each | 5.00 each | 12.1 each | 0.001 |
| 17 - 300 gal each | 0.600 each | 2.91 each | 0.0002 |
| 17 - 300 gal | 0.380 | 2.13 | 0.0001 |

| Emission Unit | Process Weight Rate (tons/hour) | Allowable PM Emission Rate (pounds/hour) | Potential PM Emission Rate After Controls (pounds/hour) |
|----------------------|--|---|--|
| 17 - 150 gal | 0.300 | 1.83 | 0.0001 |
| 17 - 400 gal | 0.800 | 3.53 | 0.0002 |
| 17 - 50 gal | 1.00 | 4.10 | 0.0003 |
| 18 | 0.870 | 3.72 | 0.0002 |
| Total | | 118.29 | |

Although the sum of the allowable PM emissions pursuant to 326 IAC 6-3-2 exceeds 57.1 pounds per hour, equivalent to two hundred fifty (250) tons per year, the source shall not emit PM at a rate of two hundred fifty (250) or more tons per year so that the requirements of 326 IAC 2-2 are not applicable. Note the total throughput for Emission Units 1 - 8 is 219,000,000 pounds per year.

These allowable PM emission rates were calculated with the following equations:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 55.0 P^{0.11} - 40 \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

The baghouses shall be in operation at all times the Emission Units 1 - 8, 11, 14, 16, 17, and 18 are in operation, in order to comply with this limit.

326 IAC 8-1-6 (New facilities: general reduction requirements)

The potential VOC emissions from each facility are less than twenty-five (25) tons per year. Therefore, the requirements of 326 IAC 8-1-6 are not applicable. Any change or modification which would increase the potential to emit VOC of any facility to twenty-five (25) tons per year or more, shall obtain prior approval from IDEM, OAM.

Conclusion

The construction and operation of this grout mixing source shall be subject to the conditions of the attached proposed New Source Construction and Minor Source Operating Permit 003-9709-00163.

Indiana Department of Environmental Management Office of Air Quality

Addendum to the Technical Support Document for New Construction and Operation

Source Name: ChemRex Inc.
Source Location: 3401 McArthur Drive, Fort Wayne, Indiana 46809
County: Allen
Construction Permit No.: MSOP 003-9709-00163
SIC Code: 3241
Permit Reviewer: Mark L. Kramer

On December 12, 2000, the Office of Air Quality (OAQ) had a notice published in the Fort Wayne Journal Gazette, Fort Wayne, Indiana, stating that ChemRex Inc. had applied for a construction permit to construct and operate a grout mixing source with baghouses as air pollution control. The notice also stated that OAQ proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

Timothy Anglin of ChemRex, Inc., a division of SKW.MBT Operations, Inc., submitted comments received on February 9, 2001 on the proposed construction permit. The summary of the comments and corresponding responses are as follows: The permit language, if changed, has deleted language as ~~strikeouts~~ and new language **bolded**.

Comments 1 - 3:

Under Section A.1 the opening sentence should read, " The Permittee owns and operates a stationary grout mixing and coating manufacturing source."

The authorized individual is now Dwight Taylor.

The Plant has two (2) SIC codes: 2851 and 3241

Responses 1 - 3:

Condition A.1 has been revised as follows:

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]
 The Permittee owns and operates a stationary grout mixing **and coating manufacturing** source.

Authorized Individual: **Dwight Taylor** ~~Scott C. Shinn~~
 Source Address: 3401 McArthur Drive, Fort Wayne, Indiana 46809
 Mailing Address: 3401 McArthur Drive, Fort Wayne, Indiana 46809
 Phone Number: 612 - 496 - 6005
 SIC Code: **2851 and 3241**

Comments 4 - 6:

In Section A.2(b), the equipment list for the grout plant should include one (1) Littleford Day mixer. This could be listed as item #17.

In Section A.2(f), the final phrase should read, 1,733 pounds of powder and resin per hour total. Solvent is not used in this process.

In Section A.2(g), the first phrase should read, eight (8) above ground storage tanks, known as Emission Unit 19.

Responses 4 - 6:

Condition A.2 and Section D.1(b), D.1(f) and D.1(g) have been revised as follows:

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

- (b) One (1) grout plant, known as Emission Unit 11, equipped with a baghouse, known as CE001, installed in March 1990, exhausted through Stack SV001, capacity: 25,000 pounds of grout mixed powders per hour, consisting of the following:
 - (15) One (1) Taylor bagger air lock, ~~and~~
 - (16) One (1) Taylor bagger side draft hood, ~~and~~ -
 - (17) **One (1) Littleford Day mixer.**
- (f) One (1) Sonoprep grout mixing and packaging line, known as Emission Unit 18, equipped with a baghouse, known as CE002, installed in 1999, exhausted through Stack SV002, throughput capacity: 1,733 pounds of powder; and **resin solvent** per hour total.
- (g) **Eight (8)** ~~Six (6)~~ above ground storage tanks, known as Emission Unit 19, installed in 1997, located inside in the coatings area, storage capacity: 8,000 gallons each. Throughput to the tanks is limited to 362,909,280 pounds per year, the total maximum amount of coatings the mixing tanks (Emission Unit 16) can produce.

The potential emissions have been revised in the spreadsheet attached to show the inclusion of the Littleford Day mixer. The changes in potential PM and PM₁₀ emissions before and after controls for the grout plant are shown in the following two (2) tables:

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

| Pollutant | Potential To Emit (tons/year) |
|------------------|---|
| PM | 84.4 80.0 |
| PM ₁₀ | 84.4 80.0 |
| SO ₂ | 0.00 |
| VOC | 7.21 |
| CO | 0.00 |
| NO _x | 0.00 |
| HAPs | Potential To Emit (tons/year) |
| Total | 7.21 |

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

| Limited Potential to Emit (tons/year) | | | | | | | |
|--|----------------------------------|----------------------------------|-----------------|------------|------|-----------------|-------|
| Emission Unit | PM | PM ₁₀ | SO ₂ | VOC | CO | NO _x | HAPS |
| 1 - 8 | 0.005 | 0.005 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 11 | 0.041 0.036 | 0.041 0.036 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 14 | 0.007 | 0.007 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 16 | 0.025 | 0.025 | 0.00 | 6.25 | 0.00 | 0.00 | 6.25 |
| 17 | 0.004 | 0.004 | 0.00 | 0.962 | 0.00 | 0.00 | 0.962 |
| 18 | 0.001 | 0.001 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 19 | 0.000 | 0.000 | 0.00 | negligible | 0.00 | 0.00 | 0.00 |
| Total Emissions | 0.084 0.080 | 0.084 0.080 | 0.00 | 7.21 | 0.00 | 0.00 | 7.21 |

Upon further review, the OAQ has decided to make the following changes to the construction permit: The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language is **bolded**):

- Effective January 1, 2001, the name of the Office of Air Management (OAM) has been changed to the Office of Air Quality (OAQ) throughout the permit.

Appendix A: Potential Emission Calculations

Company Name: ChemRex Inc.
Address City IN Zip: 3401 McArthur Drive, Fort Wayne, Indiana 46809
MSOP: 003-9709
Plt ID: 003-00163
Reviewer: Mark Kramer
Date: April 22, 1998

Note: Emission Units 1 - 8 support batch operations and therefore the maximum annual throughputs are equivalent to 25,000 pounds per hour, total

| Emission Unit 1 | | Grout Plant Silo Silo 1 | | | | | |
|-----------------|-----------|-------------------------|--------------|--------------|------------|------------|------------|
| c 1990 | | | Uncontrolled | Uncontrolled | | Controlled | Controlled |
| | Maximum | Emission | Emission | Emission | Control | Emission | Emission |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) |
| PM | 33.3335 | 0.10 | 3.33 | 5.48 | 99.9% | 0.003 | 0.005 |

| Emission Unit 2 | | Grout Plant Silo Silo 2 | | | | | |
|-----------------|-----------|-------------------------|--------------|--------------|------------|------------|------------|
| c 1990 | | | Uncontrolled | Uncontrolled | | Controlled | Controlled |
| | Maximum | Emission | Emission | Emission | Control | Emission | Emission |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) |
| PM | 33.3335 | 0.10 | 3.33 | 5.48 | 99.9% | 0.003 | 0.005 |

| Emission Unit 3 | | Grout Plant Silo Silo 3 | | | | | |
|-----------------|-----------|-------------------------|--------------|--------------|------------|------------|------------|
| c 1990 | | | Uncontrolled | Uncontrolled | | Controlled | Controlled |
| | Maximum | Emission | Emission | Emission | Control | Emission | Emission |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) |
| PM | 33.3335 | 0.10 | 3.33 | 5.48 | 99.9% | 0.003 | 0.005 |

| Emission Unit 4 | | Grout Plant Silo Silo 4 | | | | | |
|-----------------|-----------|-------------------------|--------------|--------------|------------|------------|------------|
| c 1990 | | | Uncontrolled | Uncontrolled | | Controlled | Controlled |
| | Maximum | Emission | Emission | Emission | Control | Emission | Emission |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) |
| PM | 33.3335 | 0.10 | 3.33 | 5.48 | 99.9% | 0.003 | 0.005 |

| Emission Unit 5 | | Grout Plant Silo Silo 5 | | | | | |
|------------------------|-----------|--------------------------------|--------------|--------------|------------|------------|------------|
| c 1990 | | | Uncontrolled | Uncontrolled | | Controlled | Controlled |
| | Maximum | Emission | Emission | Emission | Control | Emission | Emission |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) |
| | | | | | | | |
| PM | 33.3335 | 0.10 | 3.33 | 5.48 | 99.9% | 0.003 | 0.005 |
| | | | | | | | |

| Emission Unit 6 | | Grout Plant Silo Silo 6 | | | | | |
|------------------------|-----------|--------------------------------|--------------|--------------|------------|------------|------------|
| c 1990 | | | Uncontrolled | Uncontrolled | | Controlled | Controlled |
| | Maximum | Emission | Emission | Emission | Control | Emission | Emission |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) |
| | | | | | | | |
| PM | 33.3335 | 0.10 | 3.33 | 5.48 | 99.9% | 0.003 | 0.005 |
| | | | | | | | |

| Emission Unit 7 | | Grout Plant Silo Silo 7 | | | | | |
|------------------------|-----------|--------------------------------|--------------|--------------|------------|------------|------------|
| c 1990 | | | Uncontrolled | Uncontrolled | | Controlled | Controlled |
| | Maximum | Emission | Emission | Emission | Control | Emission | Emission |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) |
| | | | | | | | |
| PM | 33.3335 | 0.10 | 3.33 | 5.48 | 99.9% | 0.003 | 0.005 |
| | | | | | | | |

| Emission Unit 8 | | Grout Plant Silo Silo 8 | | | | | |
|------------------------|-----------|--------------------------------|--------------|--------------|------------|------------|------------|
| c 1990 | | | Uncontrolled | Uncontrolled | | Controlled | Controlled |
| | Maximum | Emission | Emission | Emission | Control | Emission | Emission |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) |
| | | | | | | | |
| PM | 33.3335 | 0.10 | 3.33 | 5.48 | 99.9% | 0.003 | 0.005 |
| | | | | | | | |

| | | | |
|---|--|-------------------------|--------------|
| Worst Case Emission Units 1 - 8 | | Total Silo 1 - 8 | |
| | | Uncontrolled | Controlled |
| | | Emission | Emission |
| | | Rate | Rate |
| | | (tons/yr) | (tons/yr) |
| Total throughput 219,000,000 tons per year | | 5.48 | 0.005 |

| Emission Unit 11 | | Grout Plant c1990 | | | Before Controls | | After Controls | Time Operating per Batch (minutes) | Maximum Batches per Hour | Maximum Hours of Operation per Year |
|------------------|--------------------------------------|-------------------|----------------------|-----------------|-----------------|------------|----------------|------------------------------------|--------------------------|-------------------------------------|
| Maximum | Description | PM | Airflow | PM | PM | Control | PM | | | |
| Operating | | mg/m ³ | ft ³ /min | lb/hr | tons/yr | Efficiency | tons/yr | | | |
| Times (min/hr) | | | | | | | | | | |
| 4.69 | Super Sack Fill Station | 3000.000 | 3100 | 2.723 | 11.926 | 99.9% | 0.012 | 0.750 | 6.250 | 684.375 |
| 0.73 | Weigh Hopper | 325.800 | 300 | 0.004 | 0.020 | 99.9% | 0.000 | 0.117 | 6.250 | 106.763 |
| 52.5 | Bag Compressor | 388.100 | 500 | 0.636 | 2.786 | 99.9% | 0.003 | 8.400 | 6.250 | 7665.000 |
| 52.5 | Bag Stack Station | 104.000 | 900 | 0.307 | 1.344 | 99.9% | 0.001 | 8.400 | 6.250 | 7665.000 |
| 4.06 | Batch Hopper Diverter Valve Cleanout | 139.200 | 1900 | 0.067 | 0.294 | 99.9% | 0.000 | 0.650 | 6.250 | 593.125 |
| 31.25 | Mixer Diverter Valve Cleanout | 139.200 | 1900 | 0.516 | 2.260 | 99.9% | 0.002 | 1.000 | 6.250 | 912.500 |
| 31.25 | Micro Add Table | 168.500 | 3000 | 0.986 | 4.319 | 99.9% | 0.004 | 5.000 | 6.250 | 4562.500 |
| 52.5 | Micro Additive Weigh Hopper | 355.200 | 500 | 0.582 | 2.550 | 99.9% | 0.003 | 8.400 | 6.250 | 7665.000 |
| 15.63 | Grout Plant Silo Batch Weigh Hopper | 355.200 | 1200 | 0.416 | 1.822 | 99.9% | 0.002 | 2.500 | 6.250 | 2281.250 |
| 6.25 | 50 lb Bag Bulk Hopper | 255.600 | 1500 | 0.150 | 0.655 | 99.9% | 0.001 | 1.000 | 6.250 | 912.500 |
| 6.25 | Super Sack Hopper (w/EU-010) | 271.950 | 1500 | 0.159 | 0.697 | 99.9% | 0.001 | 1.000 | 6.250 | 912.500 |
| 52.5 | Bag Filling | 325.800 | 1200 | 1.281 | 5.612 | 99.9% | 0.006 | 8.400 | 6.250 | 7665.000 |
| 10.5 | Taylor Bagger Super Sack Hopper | 191.100 | 2800 | 0.351 | 1.536 | 99.9% | 0.002 | 8.400 | 1.250 | 1533.000 |
| 10.5 | Taylor Bagger Auger Canopy Hood | 122.700 | 300 | 0.024 | 0.106 | 99.9% | 0.000 | 8.400 | 1.250 | 1533.000 |
| 10.5 | Taylor Bagger Airlock | 122.700 | 100 | 0.008 | 0.035 | 99.9% | 0.000 | 8.400 | 1.250 | 1533.000 |
| 10.5 | Taylor Bagger Side Draft Hood | 30.800 | 1200 | 0.024 | 0.106 | 99.9% | 0.000 | 8.400 | 1.250 | 1533.000 |
| 50.1 | Littleford Day Mixer | 360.700 | 900 | 1.015 | 4.447 | 99.9% | 0.004 | 8.400 | 5.960 | 7309.344 |
| | | | | Subtotal | 40.515 | | 0.041 | | | |

Methodology

Air monitoring during normal operations to determine PM emissions
 $\text{mg/m}^3 \times \text{ft}^3/\text{min} \times 1 \text{ lb}/453,590 \text{ mg} \times 60 \text{ min/hr} \times 0.3048^3 \text{ m}^3/\text{ft}^3 = \text{lb/hr}$

Emission Unit 14 c1990

Supersack/Small Packaging

| | | | | | Before Controls | | After Controls |
|--|-------------|-------------------|----------------------|-------|-----------------|------------|----------------|
| | Description | PM | Airflow | PM | PM | Control | PM |
| | | mg/m ³ | ft ³ /min | lb/hr | tons/yr | Efficiency | tons/yr |
| | | | | | | | |
| | Bag Filling | 325.800 | 1400 | 1.708 | 7.483 | 99.9% | 0.007 |

Emission Unit 16 Coating Line

| 2500 gal Mixer c1998 | | | | Uncontrolled | Uncontrolled | | Controlled | Controlled | SCC 3-05-011-07 | Cement Unloading |
|----------------------|-----------|------------|----------|--------------|--------------|----------|------------|------------|-----------------|------------------|
| Pollutant | Maximum | Emission | Emission | Emission | Control | Emission | Emission | | | |
| | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate | | SCC 3-05-011-09 | Mixer Loading |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) | | | |
| PM | 5.00 | 0.24 | 1.200 | 5.256 | 99.9% | 0.00120 | 0.00526 | | | |
| PM | 5.00 | 0.04 | 0.200 | 0.876 | 99.9% | 0.00020 | 0.00088 | | | |
| | | | Subtotal | 6.132 | | 0.00140 | 0.00613 | | | |

| Two (2) 1000 gal Mixers | | | Uncontrolled | Uncontrolled | | Controlled | Controlled | SCC 3-05-011-07 SCC 3-05-011-09 | Cement Unloading Mixer Loading |
|-------------------------|-----------|------------|--------------|--------------|------------|------------|------------|------------------------------------|-----------------------------------|
| c1992&1999 | Maximum | Emission | Emission | Emission | Control | Emission | Emission | | |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate | | |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) | | |
| | | | | | | | | | |
| PM | 5.71 | 0.24 | 1.371 | 6.007 | 99.9% | 0.00137 | 0.00601 | | |
| PM | 5.71 | 0.04 | 0.229 | 1.001 | 99.9% | 0.00023 | 0.00100 | | |
| | | | Subtotal | 7.008 | | 0.00160 | 0.00701 | | |

| Two (2) 250 gal Mixers | | | Uncontrolled | Uncontrolled | | Controlled | Controlled | SCC 3-05-011-07 SCC 3-05-011-09 | Cement Unloading Mixer Loading |
|------------------------|-----------|------------|--------------|--------------|------------|------------|------------|------------------------------------|-----------------------------------|
| c1998 | Maximum | Emission | Emission | Emission | Control | Emission | Emission | | |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate | | |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) | | |
| | | | | | | | | | |
| PM | 10.00 | 0.24 | 2.400 | 10.512 | 99.9% | 0.00240 | 0.01051 | | |
| PM | 10.00 | 0.04 | 0.400 | 1.752 | 99.9% | 0.00040 | 0.00175 | | |
| | | | Subtotal | 12.264 | | 0.00280 | 0.01226 | | |
| Emission Unit 16 | | | Subtotal | 25.4 | | | 0.025 | | |

| | | | | | Before | | After |
|------------|----------------------|--------|----------|-------|----------|------------|----------|
| | | | | | Controls | | Controls |
| | Description | VOC | Airflow | VOC | VOC | Control | VOC |
| | | mg/m^3 | ft^3/min | lb/hr | tons/yr | Efficiency | tons/yr |
| | | | | | | | |
| | 300 gal Pre-Mix Slot | 2.820 | 2800 | 0.030 | 0.130 | 0.0% | 0.130 |
| | 300 gal Pre-Mix Vent | 97.490 | 700 | 0.256 | 1.120 | 0.0% | 1.120 |
| | 300 gal Pre-Mix Slot | 2.820 | 2800 | 0.030 | 0.130 | 0.0% | 0.130 |
| | 300 gal Pre-Mix Vent | 97.490 | 700 | 0.256 | 1.120 | 0.0% | 1.120 |
| | 1000 gal Mixer Slot | 2.820 | 2800 | 0.030 | 0.130 | 0.0% | 0.130 |
| | 1000 gal Mixer Vent | 97.490 | 700 | 0.256 | 1.120 | 0.0% | 1.120 |
| | 1000 gal Mixer Slot | 2.820 | 2800 | 0.030 | 0.130 | 0.0% | 0.130 |
| | 1000 gal Mixer Vent | 97.490 | 700 | 0.256 | 1.120 | 0.0% | 1.120 |
| | 2500 gal Mixer Slot | 2.820 | 2800 | 0.030 | 0.130 | 0.0% | 0.130 |
| | 2500 gal Mixer Vent | 97.490 | 700 | 0.256 | 1.120 | 0.0% | 1.120 |
| VOC = HAPs | | | | | Subtotal | 6.25 | 6.25 |

Mixer Line Emission Unit 17

| 300 gal Mixer 1 | | | Uncontrolled | Uncontrolled | | Controlled | Controlled | SCC 3-05-011-07 SCC 3-05-011-09 | Cement Unloading Mixer Loading |
|-----------------|-----------|------------|--------------|--------------|------------|------------|------------|------------------------------------|-----------------------------------|
| cprior 1986 | Maximum | Emission | Emission | Emission | Control | Emission | Emission | | |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate | | |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) | | |
| | | | | | | | | | |
| PM | 0.60 | 0.24 | 0.144 | 0.631 | 99.9% | 0.00014 | 0.00063 | | |
| PM | 0.60 | 0.04 | 0.024 | 0.105 | 99.9% | 0.00002 | 0.00011 | | |
| | | | Subtotal | 0.736 | | 0.00017 | 0.00074 | | |

| | Description | VOC mg/m ³ | Airflow ft ³ /min | VOC lb/hr | Before Controls | Control Efficiency | After Controls |
|--|-------------|--------------------------|---------------------------------|--------------|--------------------|-----------------------|-------------------|
| | | | | | VOC tons/yr | | VOC tons/yr |
| | Mixer | 14.650 | 500 | 0.027 | 0.120 | 0.0% | 0.120 |
| | Draft Hood | 14.650 | 300 | 0.016 | 0.072 | 0.0% | 0.072 |
| | | | Subtotal | 0.044 | 0.192 | | 0.192 |

300 gal Mixer 2

| | Maximum | Emission | Uncontrolled | Uncontrolled | | Controlled | Controlled |
|-----------|-----------|------------|--------------|--------------|------------|------------|------------|
| Pollutant | Rate | Factor | Emission | Emission | Control | Emission | Emission |
| | (tons/hr) | (lbs/tons) | Rate | Rate | Efficiency | Rate | Rate |
| | | | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) |
| PM | 0.375 | 0.24 | 0.090 | 0.394 | 99.9% | 0.00009 | 0.00039 |
| PM | 0.375 | 0.04 | 0.015 | 0.066 | 99.9% | 0.00002 | 0.00007 |
| | | | Subtotal | 0.460 | | 0.00011 | 0.00046 |

SCC 3-05-011-07
SCC 3-05-011-09

Cement Unloading
Mixer Loading

| | Description | VOC mg/m ³ | Airflow ft ³ /min | VOC lb/hr | Before Controls | Control Efficiency | After Controls |
|--|-------------|--------------------------|---------------------------------|--------------|--------------------|-----------------------|-------------------|
| | | | | | VOC tons/yr | | VOC tons/yr |
| | Mixer | 14.650 | 500 | 0.027 | 0.120 | 0.0% | 0.120 |
| | Draft Hood | 14.650 | 300 | 0.016 | 0.072 | 0.0% | 0.072 |
| | | | Subtotal | 0.044 | 0.192 | | 0.192 |

Proposed 300 gal Mixer

| | Maximum | Emission | Uncontrolled | Uncontrolled | | Controlled | Controlled |
|-----------|-----------|------------|--------------|--------------|------------|------------|------------|
| Pollutant | Rate | Factor | Emission | Emission | Control | Emission | Emission |
| | (tons/hr) | (lbs/tons) | Rate | Rate | Efficiency | Rate | Rate |
| | | | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) |
| PM | 0.600 | 0.24 | 0.144 | 0.631 | 99.9% | 0.00014 | 0.00063 |
| PM | 0.600 | 0.04 | 0.024 | 0.105 | 99.9% | 0.00002 | 0.00011 |
| | | | Subtotal | 0.736 | | 0.00017 | 0.00074 |

SCC 3-05-011-07
SCC 3-05-011-09

Cement Unloading
Mixer Loading

| | Description | VOC mg/m ³ | Airflow ft ³ /min | VOC lb/hr | Before Controls | Control Efficiency | After Controls |
|--|-------------|--------------------------|---------------------------------|--------------|--------------------|-----------------------|-------------------|
| | | | | | VOC tons/yr | | VOC tons/yr |
| | Mixer | 14.650 | 500 | 0.027 | 0.120 | 0.0% | 0.120 |
| | Draft Hood | 14.650 | 300 | 0.016 | 0.072 | 0.0% | 0.072 |
| | | | Subtotal | 0.044 | 0.192 | | 0.192 |

Proposed 150 gal Mixer

| | | | Uncontrolled | Uncontrolled | | Controlled | Controlled |
|-----------|-----------|------------|--------------|--------------|------------|------------|------------|
| | Maximum | Emission | Emission | Emission | Control | Emission | Emission |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) |
| PM | 0.300 | 0.24 | 0.072 | 0.315 | 99.9% | 0.00007 | 0.00032 |
| PM | 0.300 | 0.04 | 0.012 | 0.053 | 99.9% | 0.00001 | 0.00005 |
| | | | Subtotal | 0.368 | | 0.00008 | 0.00037 |

SCC 3-05-011-07
SCC 3-05-011-09

Cement Unloading
Mixer Loading

| | | | | | Before Controls | | After Controls |
|--|-------------|---------------|---------------------|--------------|--------------------|-----------------------|-------------------|
| | Description | VOC mg/m^3 | Airflow ft^3/min | VOC lb/hr | VOC tons/yr | Control Efficiency | VOC tons/yr |
| | Mixer | 14.650 | 500 | 0.027 | 0.120 | 0.0% | 0.120 |
| | Draft Hood | 14.650 | 300 | 0.016 | 0.072 | 0.0% | 0.072 |
| | | | Subtotal | 0.044 | 0.192 | | 0.192 |

400 gal Mixer

| | | | Uncontrolled | Uncontrolled | | Controlled | Controlled |
|-----------|-----------|------------|--------------|--------------|------------|------------|------------|
| | Maximum | Emission | Emission | Emission | Control | Emission | Emission |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) |
| PM | 0.800 | 0.24 | 0.192 | 0.841 | 99.9% | 0.00019 | 0.00084 |
| PM | 0.800 | 0.04 | 0.032 | 0.140 | 99.9% | 0.00003 | 0.00014 |
| | | | Subtotal | 0.981 | | 0.00022 | 0.00098 |

SCC 3-05-011-07
SCC 3-05-011-09

Cement Unloading
Mixer Loading

| | | | | | Before Controls | | After Controls |
|--|-------------|---------------|---------------------|--------------|--------------------|-----------------------|-------------------|
| | Description | VOC mg/m^3 | Airflow ft^3/min | VOC lb/hr | VOC tons/yr | Control Efficiency | VOC tons/yr |
| | Mixer | 14.650 | 500 | 0.027 | 0.120 | 0.0% | 0.120 |
| | Draft Hood | 14.650 | 300 | 0.016 | 0.072 | 0.0% | 0.072 |
| | | | Subtotal | 0.044 | 0.192 | | 0.192 |

50 gal Pre-Mixer

| | | | Uncontrolled | Uncontrolled | | Controlled | Controlled |
|-----------|-----------|------------------------------------|--------------|--------------------------------------|------------------------------------|------------|--------------------------|
| | Maximum | Emission | Emission | Emission | Control | Emission | Emission |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) |
| PM | 1.000 | 0.24 | 0.240 | 1.051 | 99.9% | 0.00024 | 0.00105 |
| PM | 1.000 | 0.04 | 0.040 | 0.175 | 99.9% | 0.00004 | 0.00018 |
| | | | Subtotal | 1.226 | | 0.00028 | 0.00123 |
| | | | | Uncontrolled PM (tons/yr) | Controlled PM (tons/yr) | | VOC (tons/yr) |
| | | Emission Unit 17 Existing Subtotal | | 3.403 | 0.003 | | 0.577 |
| | | Emission Unit 17 Proposed Subtotal | | 1.104 | 0.001 | | 0.385 |
| | | Emission Unit 17 Total | | 4.507 | 0.005 | | 0.961 |

SCC 3-05-011-07
SCC 3-05-011-09

Cement Unloading
Mixer Loading

Sonoprep (Grout Mixing & Packaging Line) Emission Unit 18

| | | | | | | | | |
|-----------|-----------|------------|-----------------|--------------|------------|------------|----------------|-----------------------------------|
| c1999 | | | | | | | | |
| | | | Uncontrolled | Uncontrolled | | Controlled | Controlled | |
| | Maximum | Emission | Emission | Emission | Control | Emission | Emission | |
| Pollutant | Rate | Factor | Rate | Rate | Efficiency | Rate | Rate | |
| | (tons/hr) | (lbs/tons) | (lbs/hr) | (tons/yr) | (%) | (lbs/hr) | (tons/yr) | |
| PM | 0.867 | 0.24 | 0.208 | 0.911 | 99.9% | 0.00021 | 0.00091 | SCC 3-05-011-07 |
| PM | 0.867 | 0.04 | 0.035 | 0.152 | 99.9% | 0.00003 | 0.00015 | SCC 3-05-011-09 |
| | | | Subtotal | 1.063 | | 0.00024 | 0.00106 | Cement Unloading Mixer Loading |

| SUMMARY | | Before Controls | After Controls | | |
|---------------|--|-----------------|----------------|--------------|--------------|
| Emission Unit | | PM | PM | VOC | HAPs |
| 1 - 8 | | 5.475 | 0.005 | 0.000 | 0.000 |
| 11 | | 40.515 | 0.041 | 0.000 | 0.000 |
| 14 | | 7.483 | 0.007 | 0.000 | 0.000 |
| 16 | | 25.404 | 0.025 | 6.246 | 6.246 |
| 17 (EXISTING) | | 3.403 | 0.003 | 0.577 | 0.577 |
| 17 (PROPOSED) | | 1.104 | 0.001 | 0.385 | 0.385 |
| 18 | | 1.063 | 0.001 | 0.000 | 0.000 |
| 19 | | 0.000 | 0.000 | negligible | 0.000 |
| Totals | | 84.446 | 0.084 | 7.207 | 7.207 |

Storage Tanks

Allowable Rate of Emissions

| Emission Unit #s | Process Rate (lbs/hr) | Process Weight Rate (tons/hr) | Allowable Emissions (lbs/hr) | Controlled PM PTE (lbs/hr) |
|---------------------|-----------------------|-------------------------------|------------------------------|----------------------------|
| 1 - 8, each | 66667 | 33.33 | 40.89 | 0.00333 |
| 11 | 25000 | 12.50 | 22.27 | 0.00925 |
| 14 | 2200 | 1.10 | 4.37 | 0.00171 |
| 16 - 2,500 gal | 10000 | 5.00 | 12.05 | 0.00140 |
| 16 - 1,000 gal each | 5714 | 2.86 | 8.28 | 0.00080 |
| 16 - 250 gal each | 10000 | 5.00 | 12.05 | 0.00140 |
| 17 - 300 gal each | 1200 | 0.60 | 2.91 | 0.00017 |
| 17 - 300 gal | 750 | 0.38 | 2.13 | 0.00011 |
| 17 - 150 gal | 600 | 0.30 | 1.83 | 0.00008 |
| 17 - 400 gal | 1600 | 0.80 | 3.53 | 0.00022 |
| 17 - 50 gal | 2000 | 1.00 | 4.10 | 0.00028 |
| 18 | 1733 | 0.87 | 3.72 | 0.00024 |

Methodology

c = constructed in

For P < 60,000 lb/hr Allowable Emissions = 4.10(Process Weight Rate)^0.67

For P > 60,000 lb/hr Allowable Emissions =55(Process Weight Rate)^0.11 - 40